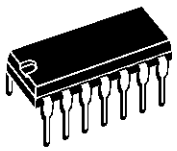
SGS-THOMSON MICROELECTRONICS

TDA8198

DOUBLE AUDIO SWITCH AND DC VOLUME CONTROL FOR TV

- A DOUBLE TWO-INPUT CIRCUITS WITH SWITCHING FACILITIES
- A DOUBLE DC VOLUME CONTROL
- 12dB MAXIMUM GAIN
- 90dB SIGNAL DYNAMIC RANGE



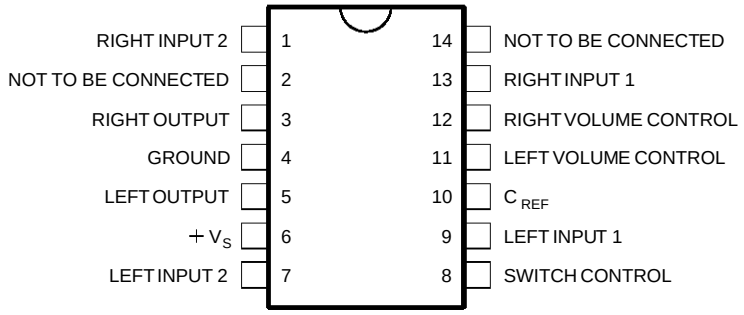
DIP14
(Plastic Package)

ORDER CODE : TDA8198

DESCRIPTION

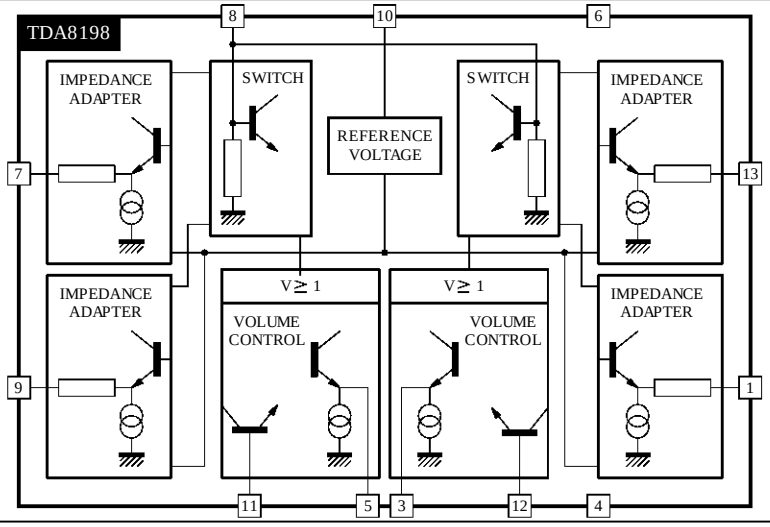
The TDA8198 is a monolithic integrated circuit in DIP14 package intented for TV applications which provides Audio switching facilities between two double inputs including DC volume control.

PIN CONNECTIONS



8198-01.EPS

BLOCK DIAGRAM



8198-02.EPS

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage	16	V
T_{stg}	Storage Temperature	-55, +125	^oC
T_{oper}	Operating Ambient Temperature	0, +70	^oC

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ELECTRICAL CHARACTERISTICS

Measured according to the following conditions, unless otherwise specified : $T_{amb} = 25^oC$, $V_S = +12V$.

Symbol	Parameter	Min.	Typ.	Max.	Unit
V_S	Supply Voltage Range	10.8	12	13.2	V
I_S	Supply Current ($V_{IN} = 0$, $V_C = 0.5V$)		24	32	mA
V_R	Reference Voltage		6.9		V
V_M	Mode Selection Voltage Audio 1 Audio 2	 9.5		 5 V_S	V
R_{SW}	Switching Input Resistance	15	30		kΩ
V_I	Audio Input Amplitude		0.125	0.3	V_{RMS}
Δk	DC Volume Control Range @ $V_I = 0.3V_{RMS}$	70	90		dB
k_{MIN}	Output/Input Gain for Maximum Volume ($V_C = 5V$)		12		dB
dK	Gain Difference between Channels at $V_C = 5V$		0		dB
V_C	Voltage Control Range $k = k_{MAX}$ (volume minimum) $k = k_{MIN}$ (volume maximum)	 5		 0.5	V
THD1	Distortion for $V_I = 0.25V_{RMS}$ at Maximum Volume		0.3	1	%
THD2	Distortion for $V_O = 1.2V_{RMS}$			5	%
C_T	Crosstalk between Switched Inputs		80		dB
C_C	Crosstalk between Channels 1 & 2		70		dB
R_I	Audio Input Resistance		22		kΩ
R_O	Audio Output Resistance		10	300	Ω
	Output Noise Level @ $V_C = 5V$ (weighted) (curve : DIN45 405)		300		μV_{RMS}
$I - V_C$	Volume Control Input Current (Pins 11 and 12) at $V_C = 5V$		-12		µA
	Volume thermal stability ($k = 30dB$, $0 < T_{amb} < 60^oC$)		0.04		$dB/^oC$

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Figure 1 : Gain versus Volume Control

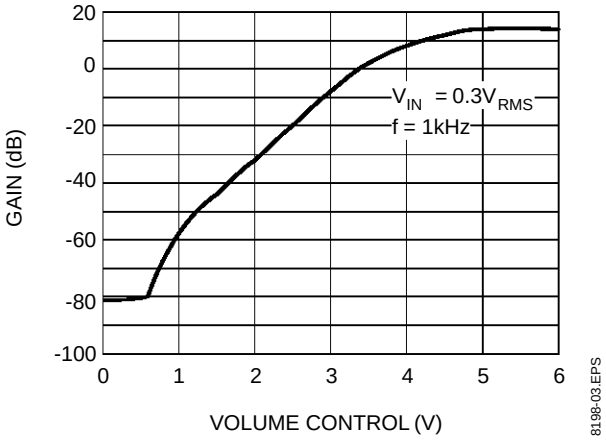


Figure 2 : Distortion versus Volume Control

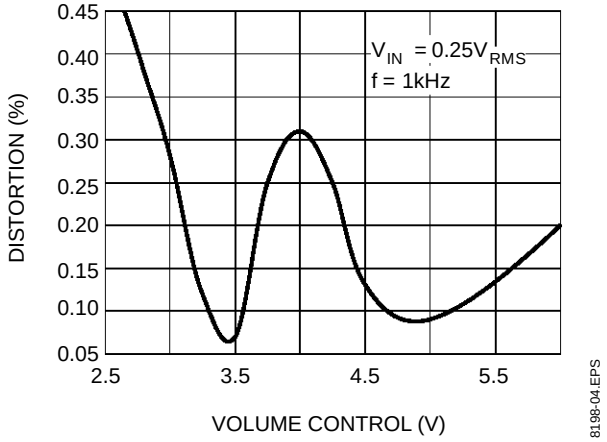


Figure 3 : Distortion versus Voltage Input

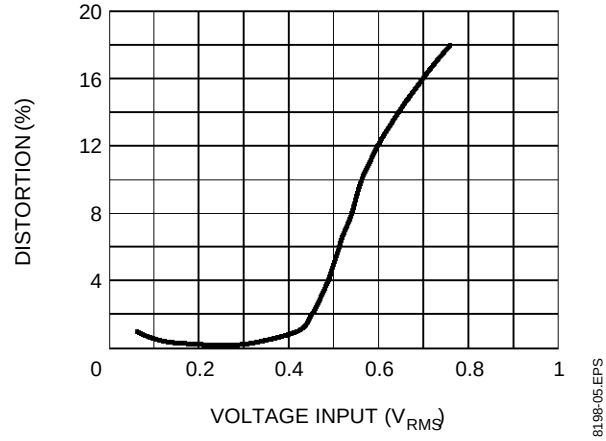


Figure 4 : Supply Voltage Rejection

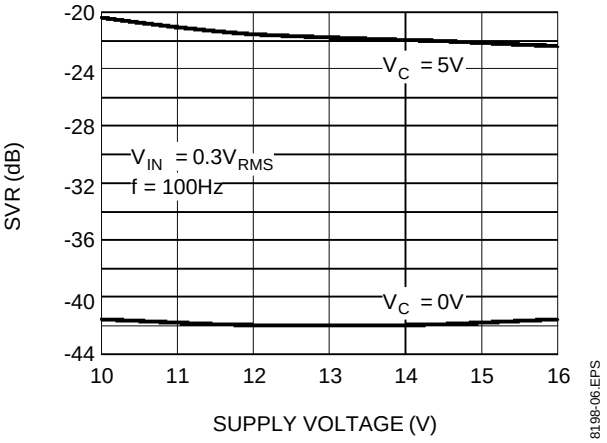


Figure 5 : Volume Control Current versus Voltage (pins 11 - 12)

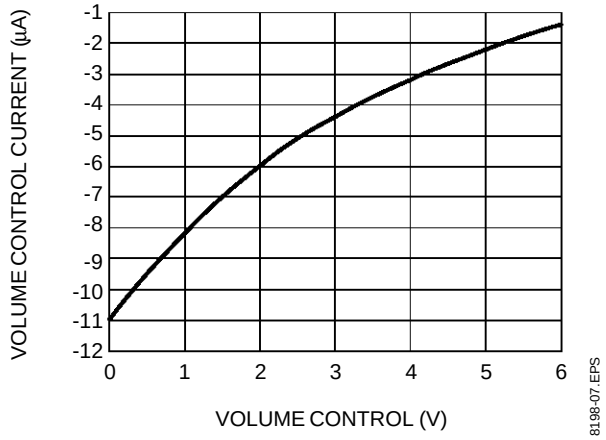
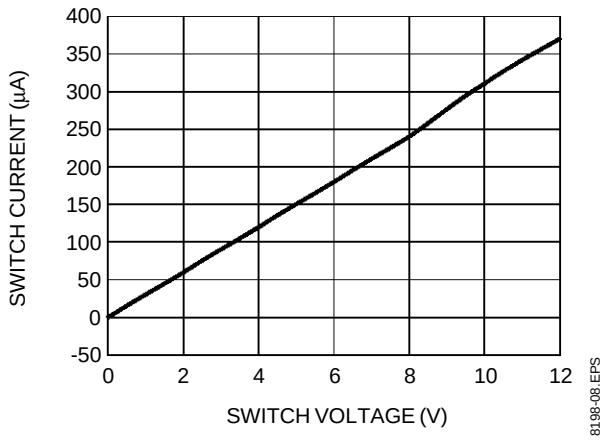
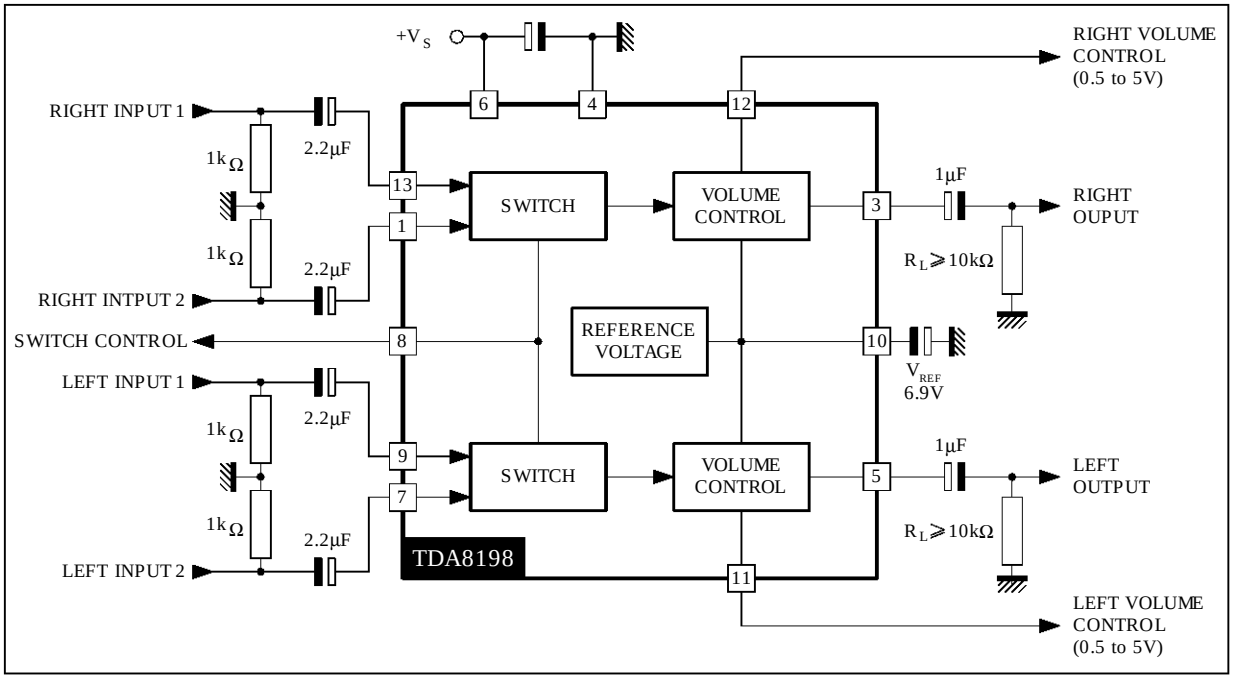


Figure 6 : Switch Current versus Voltage (pin 8)

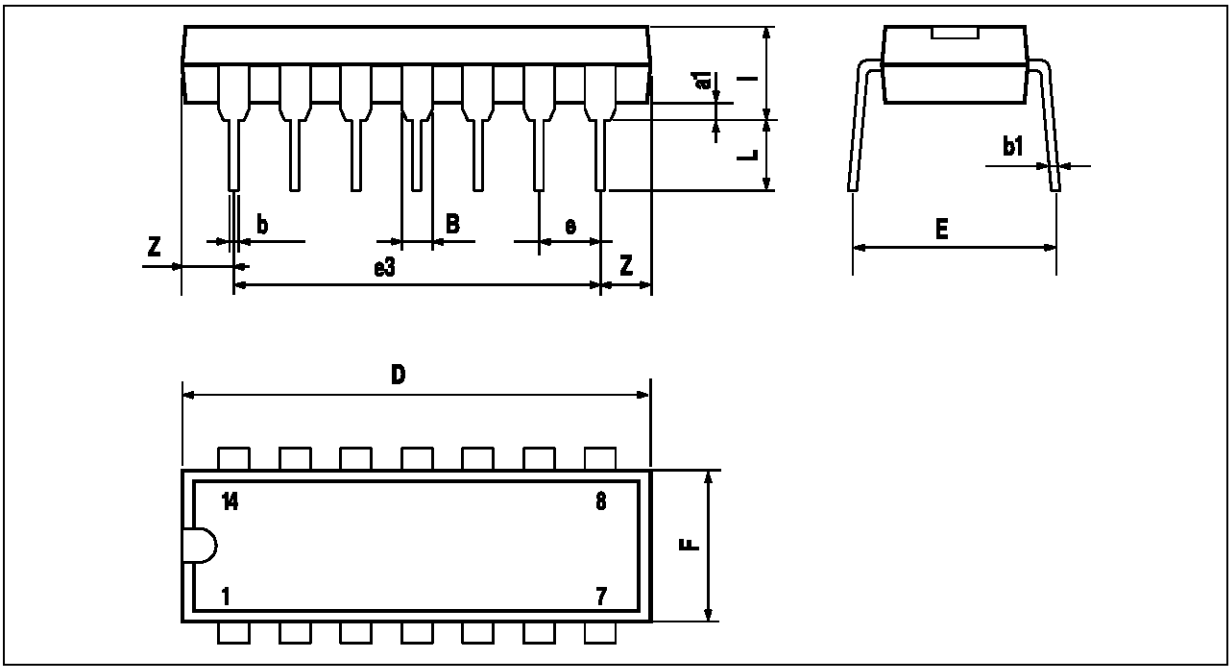


APPLICATION DIAGRAM



PACKAGE MECHANICAL DATA

14 PINS - PLASTIC DIP



PM-DIP14.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
a1	0.51			0.020		
B	1.39		1.65	0.055		0.065
b		0.5			0.020	
b1		0.25			0.010	
D			20			0.787
E		8.5			0.335	
e		2.54			0.100	
e3		15.24			0.600	
F			7.1			0.280
I			5.1			0.201
L		3.3			0.130	
Z	1.27		2.54	0.050		0.100

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